REMARKS

Claims 1-4, 6-19, and 21-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gruzdev (US Pub. No. 20030002095) in view of Higgins et al. (US Pat. No. 5835627).

There are two independent claims in this case—claims 1 and claim 16. In claim 1, the input color space of an input digital image is identified, and a color space transform is applied to the input digital image to form a corresponding digital image in a reference color space. Elements a) and b) in both claims 1 and 16 are the same. An important feature of the present invention as set forth in Element c) of claim 1 is that algorithm parameters of the automatic image enhancement algorithm are adjusted in response to the identified input color space. As will be pointed out in more detail, none of the cited references adjust algorithm parameters for an automatic image enhancement algorithm in response to an identified input color space. In claim 16 a version of the automatic image enhancement algorithm is selected in accordance with the identified input color space. This feature is not shown or suggested by the cited references. In element d) of both claims 1 and 16, the parameter adjusted enhancement algorithm (claim 1) and the selected version of the automatic image enhancement algorithm (claim 16) are then applied to the input digital image in the reference color space to produce an enhanced digital image.

Gruzdev et al. disclose a system for manually adjusting the color of an image. In paragraph [0020] of Gruzdev et al., input images may be represented by different color spaces. The method of Gruzdev et al. relies on having the image in a color space with appropriate lightness, hue and chroma attributes. Therefore, if the input image is not in an appropriate color space, they will apply a color transform to get it into such a color space [0026]. A series of user-specified adjustments are then applied to the image to provide a modified image. The adjustments may include lightness, hue and chroma adjustments, but in each case the adjustments are user-specified, and are not determined by applying an automatic algorithm to automatically determine the adjustments based on the image content.

It is important feature of the present invention that the image enhancement algorithm uses parameters that are adjusted in response to the identified input color space. It is important to note that the image adjustments that are made in Gruzdev et al are not a function of the identified input color space. Furthermore, the adjustments that they make are user specified, and are not determined using an automatic algorithm as required by both claims 1 and 16. Both of these differences

are significant. There is no motivation in Gruzdev et al. for adjusting parameters of an image enhancement algorithm, or selecting a version of an automatic algorithm, in response to an identified input color space. Furthermore, there is no suggestion of using an automatic image enhancement algorithm. There would be no purpose to combine an automatic algorithm (such as the algorithm disclosed by Higgens et al) into the structure of Gruzdev et al. Furthermore, neither of these references teach the modification of parameters for an image enhancement algorithm based on an identified input color space. An advantage of the claimed arrangement is that improved results can be obtained for input digital images in different input color spaces, while maintaining the desirable features of using a common reference color space.

The Examiner's position is that Gruzdev teaches adjusting his image enhancement in response to the input color space since "colors outside of sRGB in reference color space are ignored." Applicants fail to see where Gruzdev even discusses this in the indicated paragraphs. However, even if it were true, this has nothing to do with adjusting parameters of an image enhancement algorithm, or selecting a version of an automatic algorithm, in response to an identified input color space. If anything, the limitations of the gamut of the input color space would affect the transforms from the input color space to the reference color space and back, which would involve the use of an appropriate gamut mapping step. The gamut of the input color space would not affect the color adjustment transform that Gruzdev et al apply to the image in the reference color space in response to the user-specified adjustment. Claims 1 and 16 are believed to define unobvious subject matter. The remaining claims are dependent on either claim 1 or claim 16, and should be allowed along with their corresponding independent claims.
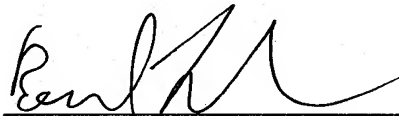
Claims 5 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gruzdev (US Pub. No. 20030002095) in view of Higgins et al. (US Pat. No. 5835627) and further in view of Capitant (US Pat. No. 5321500).

Gruzdev and Higgins have been discussed above. Capitant et al. does a reverse sensitometry function, but does not disclose, suggest or provide any motivation for the automatic enhancement algorithm, or for adjustments to such algorithm based upon the color space of the original image. Therefore, claims 5 and 20 should also be allowed along with claims 1 and 16.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this

application is believed to be in condition for allowance, the notice of which is respectfully requested. If the Examiner has any problems or difficulties with this response, Applicant's attorney would appreciate a telephone call. We are willing to set up an interview which would include the inventors, Applicant's attorney and the Examiner.

Respectfully submitted,

Attorney for Applicant(s)
Registration No. 22,363

Raymond L. Owens/djw
Rochester, NY 14650
Telephone: 585-477-4653
Facsimile: 585-477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.